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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

THOMAS, SHANE M

ART UNIT PAPER NUMBER

2186

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/879,114

Applicant(s)

BAJIKAR, SUNDEEP M.

Examiner

Shane M. Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-20 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>12192005</u> . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is responsive to the appeal brief filed 10/17/05 in addition to the interview conducted between the Examiner and Applicant's Representative, Sumit Bhattacharya (Reg No. 51,469). Claims 1-20 remain pending.

Response to Arguments

Applicant's arguments, see Appeal Brief, filed 10/17/2005, as well as the Applicant's interview related to the claimed subject matter discussed in the attached Interview Summary, with respect to the rejections of claims 1 -5,8,10-12, and 15 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Allen et al. in addition to Okuyama et al. (which was previously cited with the Gushiken reference).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Allen et al. (U.S. Patent No. 6,115,200).

As per claim 1, Allen (figure 2) teaches a storage device 222, a vibration sensor 302 (figure 3), and a chipset (combination of 310 and 307) having a storage controller 310 arranged to control accesses to the storage device 222 including limiting access to minimize damage to the storage device (figure 4) in response to the vibration signal indicating sustained vibrations - column 5, lines 45-54.

The vibration sensor 302 detects for sustained mechanical vibrations over a designated time period as shown in figure 4 and taught in column 5, lines 45-54, and generates a vibration signal to indicate the presence of a sustained mechanical vibration (i.e. keeps the enable write signal 412 inactive to prevent writing during vibrations).

Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Okuyama et al. (U.S. Patent Application Publication No. 2002/0126408) with reference to Hamaguchi et al. (U.S. Patent Application Publication No. 2002/0060871) and Kikuta et al. (U.S. Patent No. 6,510,014). The Hamaguchi and Kikuta references are being used as supportive evidence for an inherent feature of the Okuyama teachings.

As per claim 1, Okuyama shows in figure 13 a portion of a mobile system comprising a storage device 23, a vibration sensor (detecting unit 25), and a chipset 19 that has a storage controller (inherent) as the chipset is responsible for the reading and writing of data to and from the storage device 23 (¶54) upon command via the external electronic appliance - such as element 13 of figure 4. The external electronic appliance is the other portion of the mobile system as taught by Okuyama.

The vibration sensor (external sensor), which can be an acceleration sensor as well, taught in ¶68, detects when external shocks (i.e. sporadic vibrations) are applied to the device 17. Okuyama teaches (¶74) a positional error signal of the detecting unit 25 that is used to count the frequency degree at which the error signal exceeds a predetermined slice level in order for the detecting circuit to determine whether or not a data read/write operation is available. While not specifically mentioning the term --acceleration sensor-- or --vibration sensor--, based on the prior reference of Kikuta and Hamaguchi, it would have been seen by one having ordinary skill in the art that the --acceleration sensor-- of Okuyama is producing the positional error signal when a vibration (external shock) is occurring to the storage device, which is caused by the read/write head being displaced past a predetermined slice level. The following are discussions regarding the teachings of the prior art definitions of acceleration (vibration) sensors and how they function

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(so as to show that the position error signal is a product of the acceleration sensor) , which is well known in the art but not explicitly mentioned in the Okuyama reference.

Hamaguchi teaches in ¶65 that an output of an acceleration sensor is tested to determine whether the output value exceeds a predetermined maximum value. If so, it is then determined that an external shock has been applied to the device [and write operations are aborted]. Such a teaching is equivalent to the teachings of Okuyama in ¶74 where the position error signal is used to gauge whether its output exceeds a predetermined slice value in order to determine whether or not to abort or not perform a write operation (¶68 of Okuyama specifically teaches stopping a write operation).

Kikuta teaches in column 2, lines 23-25, that an acceleration signal is used as a shock sensor, which can be used to inhibit a read/write operation of the device (column 4, lines 20-22). Slice levels are used to check for shocks as shown in figure 5, element 202, and taught in column 2, lines 10-16 and 40-45. Thus Kikuta teaches that slice levels (such as discussed in Okuyama ¶74) are used to determine disturbances or shock levels.

From the supportive evidence above, it can be seen by one having ordinary skill in the art, as it is well known in the art, that the acceleration sensor of Okuyama ¶68 is the sensor that outputs the positional error signal for detecting shocks/vibrations/disturbances that are applied to the device 17 of Okuyama.

The acceleration sensor (vibration sensor) detects a presence of sporadic mechanical vibrations as taught with reference to figure 14 and ¶¶74-75. When a given vibration is detected which results in the counter 'k' exceeding a threshold "x2" (step 305), reading may occur but writing is stopped (Step 310); however, if another sporadic mechanical vibration occurs, then

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upon the next iteration of the process of figure 14, the threshold “x3” becomes surpassed and both reading and writing are both stopped (step 311). The detection of the sporadic mechanical vibrations occurs over a “designated time duration” as the process of figure 14 is performed once every time a certain time period has passed (which can use a timer) - ¶75.

A simple example is as such: a first threshold (x1) equals ‘1,’ a second threshold (x2) equals ‘2,’ and a third threshold (x3) equals ‘3.’ The first time a vibration is detected (by observing the positional error signal exceeding a predetermined slice level - ¶75), the counter ‘k’ is incremented but does not exceed the threshold $x1=1$. A next sporadic vibration would then exceed the first threshold x1 when the next position error signal is detected and move to step 307 where a subsequent sporadic vibration would likewise reach the third threshold x3 when yet another positional error signal is detected, which would result in the writing process being stopped (step 310).

The vibration sensor (detecting unit 25) sends a signal (corresponding to the desired readable/writable state - 1,2,3, or 4 (figure 14) when detecting sporadic mechanical vibrations as discussed above.

A chipset 19 (with the inherent storage controller) is arranged to access the storage device 23 (¶54) and based on the setting of the readable/writable state established, limits access (either read/write, read/no-write, or no-read/no-write) to the storage device 23 in order to minimize damage to the storage device (as shocks can be harmful to the storage device as inherent and taught by Kikuta in the abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okuyama et al. (U.S. Patent Application Publication No. 2002/0126408), as applied to claim 1 above, in view of Katahara et al. (U.S. Patent Application Publication No. 2002/0114095).

As per claim 2, Okuyama teaches that the external electronic appliance 13 (portion of the mobile system) can be a car navigation system but does not specifically teach a position sensor that is arranged to detect whether there is a change in the position of the mobile system at a fixed or variable velocity or acceleration. The positional signal is defined in the Applicant's specification as originally filed on page 11, lines 1-4, and includes the use of the GPS standard. Katahara teaches in ¶5 that a GPS (global positioning system) can be used in car navigation system. Using the GPS tracking system in the car navigation system would have allowed the mobile system of Okuyama to have utilized GPS satellites that are already positioned for the purpose of tracking a change in position of objects. Further, the GPS system is well known in the art to be utilized in car navigation systems.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the car navigation system of Okuyama with the teaching of a GPS system as taught by Katahara in order to have utilized a well-established positioning system to indicate the position of a car.

The GPS system of Katahara inherently comprises a position sensor that is arranged to detect a change in the position of the mobile system of modified Okuyama at a fixed or variable velocity or acceleration and to generate a position signal indicating the change in the position of the mobile system, as is very well known in the art of GPS tracking. Movement of the mobile system is reflected continually updated coordinates of the location and direction of the mobile system.

Allowable Subject Matter

Claims 3-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 10-20 are allowable over the prior art of record.

As per claims 3 and 10, neither Okuyama, Katahara, nor the other prior art references of record specifically teach nor suggest, alone or in combination, utilizing a positional sensor (as defined in Applicant's specification - page 11, lines 1-4 as originally filed) to indicate a change in position while the chipset, which controls disk accesses, limits access to the disk to reduce damages to the disk in response to the position signal indicating the change in position of the mobile/computer system.

As per claim 19, The prior art of record does not teach or suggest receiving an indication from a vibration or position sensor which requests operation in a particular mode when *there is a presence of sustained or sporadic mechanical vibrations over a designated time duration or*

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when there is a change in position of the mobile PC at a fixed or variable velocity or acceleration

Claims 4-9 are objected to as being dependent upon objected base claim 3.

Claims 11-18 and 20 are allowable over the prior art of record as being dependent upon an allowable base claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane M. Thomas whose telephone number is (571) 272-4188. The examiner can normally be reached on M-F 8:30 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt M. Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shane M. Thomas

